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ORD 770-63

9 December 1963

MEMORANDUM FOR: Deputy Director (Science & Technology)

SUBJECT: Photo Panel Status

1. One of the original concepts was that we would assemble this group of experts who would essentially polish up and verify the [] spread of resolution probabilities in a quantitative manner, and that the verified spread would be some correlatable function of major and limiting atmospheric degradation factors exclusive of clouds -- namely, haze and turbulence.

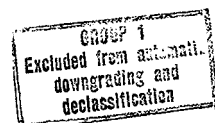
2. This concept was further refined in the letter to Dr. [] on 5 November 1963, outlining nine objectives of which seven were subsequently jointly agreed on, leaving out two relative to system design.

3. As of this date it is only possible to list some of the highlights and tentative conclusions, including the following:

a. The Mission 9056 IMC was not operating properly during the total mission.

b. Repeat readings of the MIP on the 77 selected frames of this mission are not in very good agreement.

c. The RES, or Reciprocal Edge Spread, measurements as conducted at Westover are quite subjective and do not correlate well with MIP. A Fourier analysis of the edge spread measurement is desirable as it seems to offer one of the best possibilities for deriving an after-the-fact system modulation transfer function which can be related to IMC, yaw, defocusing, etc.



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d. Most of the photo interpreter -- psycho-physical studies generally have not been applied against even a basic theory, so that the first attempts at correlation generally leave the subject hanging and these small efforts are dropped.

e. Although turbulence is a definite dynamic factor in image degradation, its effect is not expected to be more than a half a foot on the ground.

f. Haze, which is a DC effect, does not seem to be quite as much of a factor as originally contemplated. In fact, recent photographs of the Los Angeles area taken from 70,000 feet with the C camera on a day which is described as being the worst smog day in 25 years, and during which the pilot reported he could not see the ground, are quite clear and showed better than one foot resolution on the ground -- this may or may not be significant due to the possible peculiar nature of Los Angeles smog.

4. The next meeting of the Panel is on the West coast at Lockheed on the 11th, 12th and part of the 13th of December. These meetings generally run until ten or eleven in the evening.

5. The following meeting will be at NPIC the week of the 16th, and I suggest that, if possible, Sid and I get together and give you a personal, informal rundown at this time. My general feeling is that the Panel is and will be accomplishing a great deal of useful work and although all the objectives of the original charter may not be met in full, the direction to go will be rather completely laid out.



Deputy Assistant Director
Office of Research & Development

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